United States Department of the Interior
Bureau of Land Management

Arizona Strip Field Office

Environmental Assessment

June Tank Allotment Grazing Permit Renewal And Sagebrush-Grassland Ecosystem Restoration

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EA-AZ-110-2005-0012

I. INTRODUCTION

This Environmental Assessment (EA) analyzes the proposed grazing permit renewal for the June Tank allotment. The action culminates an evaluation conducted on the allotment under the Arizona BLM Standards for Rangeland Health and Guidelines for Grazing Management (S&Gs). In addition, this EA looks at the present Allotment Management Plan (AMP), and determines if current grazing management practices would maintain desirable conditions and continue to allow improvement of public land resources, or if changes in grazing management for the June Tank allotment are necessary. This EA is intended to evaluate the findings of the June Tank assessment as it relates to vegetation conditions and resource values in the allotment. This is done in an effort to balance demands placed on the resources by various authorized uses within the allotment.

This EA also analyzes the Ecological restoration prescriptions for the proposed sagebrush-grassland ecosystem restoration. These prescriptions would use the herbicide tebuthiuron to reduce 9,000 acres of sagebrush*(Artemisia tridentata)* component and allow the grass and forb components of the community an opportunity to compete for water and nutrients thus allowing for restoration of the sagebrush-grassland ecosystem.

Analysis of existing allotment data indicates that ecological condition trends and pace-frequency trends are static or improving. It was determined by the Interdisciplinary Assessment Team (IAT) during the assessment process, that resource conditions on the allotment are meeting Standards for Rangeland Health.

Purpose and Need

The purpose and need of this action is to renew the grazing permit associated with the June Tank Grazing Allotment (#5221). The June Tank Grazing Allotment is located 50 miles south of Fredonia Arizona, in the northern portion of Arizona on lands managed by the Arizona Strip Field Office.

There is a need to restore ecosystem structure and function to the grassland-sagebrush communities, which would result in ecological health to portions of that ecosystem.

Big sagebrush is a natural component in grass-sagebrush communities but has replaced grasses and forbs. This replacement has diminished the biodiversity of these sites changing the ecosystem of the area. Studies show this can result in lowered forage production, increased noxious weed populations, soil erosion, and excess runoff (Tisdale, Hironaka, Fasberg 1969). Uncontrolled heavy grazing prior to the Taylor Grazing Act has been considered the reason for increasing sagebrush composition and its limited invasion into adjacent grasslands (Houston, 1961; Pechanec, Plummer, Robertson & Hull, 1965) but the reduction of fire and occasional severe drought have also been credited with favoring sagebrush over perennial grasses (Valentine, 1974).

Remnant grass patches show site potential and would expand if sagebrush was reduced. The reduction of sagebrush would improve the watershed conditions, improve the composition and density (thus, production) of forage for wildlife and livestock, increase habitat diversity and edge effect (ecotone) by opening up big sagebrush stands, and help improve biodiversity of species on select areas on the Arizona Strip.

Conformance with Land Use Plan

This proposal is found to be in conformance with the Arizona Strip District Resource Management Plan (RMP) dated January 1992, as amended April 1997. The RMP adopted resource specific activity plans from the Vermillion Grazing EIS (April, 1979), including allotment management plans. The Vermillion Grazing EIS proposed that the June Tank allotment should continue to be managed under the implemented grazing system

This action is in conformance with Arizona's Standards and Guides, which were developed through a collaborative process involving the Arizona Resource Advisory Council and the Bureau of Land Management State Standards and Guides Team. The Secretary of the Interior approved the Standards and Guides in April 1997. The Decision Record, signed by the BLM State Director (April 1997) provided for full implementation of the Standards and Guides in all Arizona Land Use Plans.

This proposal was initially scoped and found to be consistent with the Arizona Strip District Resource Management Plan (RMP) dated January 31, 1992, as amended April 1997. The following decisions from the Arizona Strip RMP apply to the proposal:

GZ01 "Manage rangelands in accordance with multiple-use objectives, requirements and provisions of established laws, regulations and BLM policies,. . ."
GZ05 "Complete an environmental review . . . on site-specific rangeland improvement projects, if not covered in specific activity plans."

GZ06 "Continue implementing the Vermillion grazing management program . . . that specifies grazing systems, management facilities and land treatments, provided they are consistent with other Resource Management Plan decisions."

GZ08 "Establish desired plant community objectives for the resource area . . . and ensure that improvement practices achieve these objectives."

GZ14 "Pest management would be in compliance with the programmatic Vegetative Treatment on BLM - Administered Land Environmental Impact Statement . . ."

GZ21 "Vegetative treatment would be implemented where plant cover or soil productivity is being lost, to achieve a desired plant community, to improve habitat conditions for wildlife or to meet activity plan objectives. Practices used to accomplish this include . . herbicide applications, . . ."

TE02 "Prior to potentially disturbing activities . . . a special status species review would be conducted by a qualified specialist."

WS01 "Manage vegetation cover towards ecological stability and sound long-term protective soil cover using mechanical, chemical, biological or fire methods as tools for accomplishment."

WS16 "Develop management prescriptions or improvement practices to achieve desired plant community objectives."

WL02 "Maintain productive wildlife habitat and ensure wildlife needs and considerations are incorporated into land use planning . . . and management decisions."

WL03 "Improve wildlife habitat through construction and maintenance of habitat improvement projects."

WL11 "Balance non-consumptive use of wildlife with consumptive uses by directing vegetation/habitat management towards maintaining an ecologically diverse plant community."

The RMP adopted resource specific activity plans including allotment management plans (AMPs). Objectives of the AMPs include: control sagebrush where feasible and aesthetically permissible, increase quality and the quantity of useable forage for livestock and wildlife, and improve watershed condition.

This restoration proposal is consistent with the Arizona Record of Decision for vegetation treatment on BLM lands dated July 23, 1991, and meets the Purpose and Need set forth in the Vegetation Treatment on BLM Lands in Thirteen Western States Final EIS (FEIS) of May 1991. The statutes, policy and planning criteria for the decision are set forth in the FEIS and Record of Decision (ROD), which considered and evaluated the impacts of described vegetation treatment programs from a mix of alternative methods of vegetation treatment including burning, biological, mechanical, manual, and chemical treatments.

Relationships to Statutes, Regulations, or other Plans

Grazing permit renewals are provided for in 43 CFRs 4100 where the objectives of regulations are"....to promote healthy, sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to properly functioning conditions; to promote the orderly

use,....; to establish efficient and effective administration of grazing of public rangelands;....", and as provided for in the Land Use Plans in accordance with multiple-use objectives, requirements and provisions of established laws, regulations and BLM policies incorporating Desired Plant Community (DPC) objectives using the Ecological Site Index approach.

Grazing management practices on the June Tank Allotment are in conformance with Arizona Standards for Rangeland Health and Guidelines for Grazing Administration. These practices are intended to assist management in meeting the Standards for Rangeland Health.

Renewal of the June Tank grazing permit conforms to the President's National Energy Policy and would not have adverse energy impacts. This action would not deny energy projects, withdraw lands, close roads or in any other way deny or limit access to mineral materials to support energy actions.

The proposed action described and analyzed in this document is in compliance with the Endangered Species Act of 1973 as Amended, section 106 of the National Historic Preservation Act of 1966, the Archaeological Resources Protection Act of 1979, the Federal Land Policy and Management Act of 1976, the National Environmental Policy Act of 1969 and State of Arizona regulations regarding air quality.

The proposed action is consistent with BLM's 13 Western States Vegetation Treatment EIS.

Issues

Section V contains a list of interested groups and agencies that participated in the public involvement process. The list of concerns was developed through the public involvement process. Individuals, groups, and/or agency personnel had concerns about:

Potential threat to human health and safety from use of chemicals
Potential affect of chemicals on cultural resources.

Issues raised relating to Standards for Rangeland Health

The issues relating to rangeland health were identified by the Rangeland Resources Team (RRT), Interdisciplinary Assessment Team (IAT), and livestock permittee during the June Tank allotment scoping meeting on March 14, 2001 and a field visit on July 18, 2001. Conclusions to these issues can be found in the June Tank Standards and Guidelines Assessment Report. The issues identified through the process described above were:

a. Sagebrush management and associated soil erosion

The East half of this allotment is dominated with Artemisia tridentata wyomingensis (Wyoming big sagebrush) which has a fair to good understory of grasses. A brush management program is in place along with the grazing management plan, which would

help restore the natural plant community balance, and restore the desired vegetative cover to protect soils, control erosion, reduce sediment and improve water quality. Tebuthiuron or Spike 20P is used to help improve forage quality and quantity for livestock and wildlife, by reducing the amount of Wyoming big sagebrush in the plant community, thus maintaining or enhancing wildlife habitat.

A sagebrush-grassland restoration and brush management plan is in place. This allotment consists of approximately 40,000 acres of Wyoming Big Sagebrush, 9,000 acres of which has already been treated and those results are being monitored. An additional 9,000 acres are proposed for treatment by 2009.

b. Mule deer and pronghorn populations

Mule deer and pronghorn populations are not declining in Game Management Unit 13A. Wildlife populations can and do fluctuate on an annual basis, as well as seasonally, and in specific areas, for many reasons. Population declines among wildlife species are not necessarily indicators of poor rangeland health, which is not the case on this allotment.

c. Noxious weeds

A ¼ acre patch of scotch thistle has been identified near the road to Kanab Point. There have been efforts in the past to treat this infestation. Although these efforts have not yet eradicated the noxious weed in the area, they have had an impact in reducing the size and plant numbers of the infestation. Presently, the infestation has not expanded beyond its located size. On the S & G trip to the allotment, everyone including the RRT pitched in as a work project to shovel, hoe and pull a small patch of scotch thistle and remove it from the site. Efforts would be ongoing to control it.

Current Planning Process

The Arizona Strip Field Office is currently involved in a planning process that would result in 3 stand alone RMPs, one for each new National Monument and one for the Arizona Strip Field Office on the outside of the monuments. No grazing changes are currently anticipated for the June Tank allotment. However, there may be modifications as a result of the new RMPs. The 10-year grazing permit, in part, states "This permit is subject to (A) modification, suspension or cancellation as required by land plans and applicable law; (B) annual review and to modification of terms and conditions as appropriate; …". BLM may use these permit conditions to implement any changes required under the new RMPs.

II. PROPOSED ACTION AND ALTERNATIVES

Proposed Action (Renewal of 10 Year Grazing Permit)

The Proposed Action is to renew the grazing permit for the June Tank allotment for a period of ten years with current terms and conditions. Renewal of the 10 year grazing permit proposes no change from the present grazing permit. Livestock numbers would be limited to the current active preference. Livestock grazing would be in accordance with existing AMP. New range improvements to assist in grazing practices and promote rangeland health would be considered through the NEPA process.

The June Tank Allotment Management Plan(AMP) consists of two grazing systems.
Heaton Livestock Co. 1091 Cattle from 10/16 to 6/15, 94% public land, 8206 AUMs

The Winter system is a modified 5 pasture rest rotation grazing system from October 16 through March 15 and the Spring system is a 5 pasture rest rotation system from March 16 through June 15.

Grazing Preference and Current Use on the Allotment

Livestock Numbers	Season of Use	% Federal	Active AUMs
1091 Cattle	10/16 to 6/15	94%	8206

Voluntary non-use has varied from 1000-5000 AUMs per year, since 1985. Non-use reflects seasonally dry periods, drought years or other factors.

The Arizona Strip Field Office also proposes to apply ecological restoration prescriptions to various sites of the grassland-sagebrush ecosystem by use of the herbicide tebuthiuron to reduce the sagebrush*(Artemisia tridentata)* component on the Arizona Strip where this species is dominant and has crowded out herbaceous vegetation.

The proposed treatment sites presently contain small (less than 2-4 acres) grass openings within the sagebrush-dominated plant community.

The total acreage proposed for treatment is nine thousand acres, but broken into five specific treatment polygons, within a larger forty thousand acre zone of big sagebrush (*Artemisia tridentata*). The proposed restoration prescription is to use Spike™, which is Elanco Products Company's trade name for tebuthiuron. The proposed restoration areas would include portions of sections in T.35 N. R.4 W., T.35 N. R.5 W.; T.35 N., R.6 W.; T.36 N. R.5 W.; T.36 N. R. 6 W.; T.36N. R.5W.; T.36N. R.8W.

The systemic name of tebuthiuron is N - (5-(1,1-dimethylethyl)-1,3,4-thiadiazol-2-yl) -N,N' - dimethylurea. Tebuthiuron is an odorless white crystalline powder, which has been successfully formulated with different clay sources to produce Spike with no resulting problems of efficacy or storage stability. Spike is a dry pellet applied aerially to the soil surface. Moisture moves the chemical into the soil where absorption by the roots and translocation to the leaves results in inhibition of photosynthesis.

A licensed applicator would apply the herbicide with a fixed-wing aircraft using standard-approved aerial application techniques and a positive metering device patented by Dow-Elanco Chemical Company. BLM would supply flag persons to mark the flight paths. Aerial herbicide application may leave straighter boundary lines along the treatment area than desired. Once the effects of the treatment are visually evident, and can be evaluated, a determination would be made as to the necessity of using a back pack application device to create a more irregular pattern. Irregular patterns are more aesthetically pleasing than straight lines. Also, the creation of edge effect or ecotone would be beneficial for wildlife. The Spike herbicide would be applied at the rate of 0.40 to .50 lbs. of active ingredient per acre. Treatment would consist of one herbicide application, with the possible exception of backpack application noted above.

The objective of the restoration prescription is to reduce sagebrush by 75-85% and increase native grasses and forbs. There is sufficient native understory vegetation to accomplish this objective without the need to seed the area.

If conditions necessary for a successful herbicide application do not develop, the project may be delayed until conditions do become favorable. The treated areas are part of a deferred rotation grazing systems, which receive regularly scheduled growing season rest. The grazing schedule would be adjusted if necessary to provide the recommended one growing season rest following restoration prescription to provide maximum vegetative benefits.

Management treatments and project design features relating to vegetation treatment activities are presented in the FEIS pages 1-33 to 1-35. All mitigation measures adopted in the ROD are incorporated as additional project design features. In addition, site specific project design features include: a buffer zone of at least 100 feet around stock ponds to avoid chemical contamination of water, and weather conditions that are favorable for flying at the time of application.

The proposed restoration prescription site is remote and virtually unpopulated. Based on similar adjacent areas the cost per acre would be approximately $14.87 (based on 2001 dollars).

Alternatives Considered But Rejected For Further Analysis

Alternatives are tiered to the Arizona Strip District RMP (January, 1992) and the Vermillion Grazing EIS (April, 1979) which was adopted into the RMP and are basically the same for this action. The Grazing EIS addressed six alternatives: Full Stocking with Management, Stocking Level by Condition Class, No Vegetation Manipulation, Elimination of Grazing on Public Lands, Less Intensive Management of Livestock Grazing and No Action.

The following five alternatives were considered for this EA but rejected because they were analyzed in the RMP, to which this document is tiered.

- **Full Stocking with Management alternative** would allow stocking at the estimated livestock carrying capacity of each allotment but otherwise would provide the same

management as the proposed action. June Tank is intensive management, which is one of 40 allotments with intensive management and less intensive management on 10 other allotments.

- **Stocking Level by Condition Class alternative** would set the stocking level based on the average condition and apparent trend of the allotment.

- **No Grazing Alternative (Elimination of Livestock Grazing on Public Lands).** The decision to authorize livestock grazing in this area and specifically on the June Tank allotment is documented in the approved land use plan. The absence of new information or other land use plan decisions showing that continued livestock grazing would preclude BLM from meeting or making significant progress toward achieving land health standards renders the existing land use plan authorizing grazing valid. A no grazing alternative or not renewing a grazing permit would not conform to the land use plan. A plan amendment would be required before closing an allotment to livestock grazing.

- **Burning the sagebrush instead of using Spike**. Would provide similar results as herbicide, but the grass and sagebrush cover is not continuous enough to carry a flame head. Also, fire would cause a temporary loss of grass and litter cover, thus exposing the soil to erosion. This also creates a much harsher micro-environment which allows cheatgrass, an introduced invasive species to grow and the re-establishment of perennial understory plants could be difficult, and may require seeding to achieve the objectives.

- **Biological Control.** Would require application of a parasite or pathogen. Such biological controls are not presently available. If they were available, it would present a problem in controlling spread into non-target areas. For these reasons, this alternative would not be considered further.

The alternatives of No Use of Prescribed Burning, No Aerial Herbicide Application, No Use of Herbicides, and No Action, have been analyzed in the Vegetation treatment on BLM Lands FEIS, to which this document is tiered, and considered in the ROD. Further discussion in this EA is unnecessary since site specific conclusions and impacts would be essentially the same. The FEIS and ROD are available for public review at any BLM office in Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, Oklahoma, eastern Oregon, South Dakota, Utah, Washington, or Wyoming.

Terms and Conditions of Grazing Permit

Grazing would be in accordance with the June Tank AMP, signed January 16, 1985. Billing for grazing use would be based on the actual use report which is due on or before June 30 each year. Livestock may be moved up to 15 days before or after scheduled move dates. When two pastures are scheduled for use at the same time, they can be grazed jointly or separately.

This includes a one way trailing permit for four days in November, crossing federal lands

beginning on BLM lands south of the Kaibab Paiute Indian Reservation and following the Mt. Trumbull Recreation Road to the June Tank Allotment.

Desired Plant Community (DPC)

This EA also incorporates by reference the "Implementation of Standards for Rangeland Health and Guidelines for Grazing Administration, June Tank Allotment S&G Assessment" (2001)[1]. The June Tank Allotment Assessment lists and evaluates achievement of the allotments DPC objectives summarized below. These objectives are expressed in species composition by weight.

Desired Plant Community (DPC) key areas #1 (Loamy Upland 10-14" pz)

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 20-40% through 2030
< Maintaining the grass composition between 40-65% through 2030
Maintaining the forb composition between 1-15% through 2030

Desired Plant Community (DPC) key areas #2 (Shallow Loamy 10-14" pz)

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 20-40% through 2030
< Maintaining the grass composition between 40-65% through 2030
Maintaining the forb composition between 1-15% through 2030

Desired Plant Community (DPC) key areas #3 (Loamy Upland 10-14" pz)

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 20-40% through 2030
< Maintaining the grass composition between 40-65% through 2030
Maintaining the forb composition between 1-15% through 2030

Desired Plant Community (DPC) key areas #4 (Shallow Loamy 10-14" pz)

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 30-60% through 2030
< Maintaining the grass composition between 50-70% through 2030
Maintaining the forb composition between 1-15% through 2030

Desired Plant Community (DPC) key areas #5 (Shallow Loamy 10-14" pz)

[1]June Tank Allotment S&G Assessment, available at the Bureau of Land Management, Arizona Strip Field Office, 345 E. Riverside Drive, St. George, Utah 84790.

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 30-60% through 2030
< Maintaining the grass composition between 50-70% through 2030
Maintaining the forb composition between 1-15% through 2030

Desired Plant Community (DPC) key areas #6 (Loamy Upland 10-14" pz)

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 30-50% through 2030
< Maintaining the grass composition between 45-70% through 2030
Maintaining the forb composition between 1-15% through 2030

Desired Plant Community (DPC) key areas #7 (Loamy Upland 10-14" pz)

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 30-50% through 2030
< Maintaining the grass composition between 45-70% through 2030
Maintaining the forb composition between 1-15% through 2030

Desired Plant Community (DPC) key areas #8 (Shallow Loamy 10-14" pz)

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 30-50% through 2030
< Maintaining the grass composition between 45-70% through 2030
Maintaining the forb composition between 1-15% through 2030

Desired Plant Community (DPC) key areas #9 (Shallow Loamy 10-14" pz)

< Maintain ecological condition in Late Seral through 2030 by,
< Maintaining the browse/shrub composition between 30-50% through 2030
< Maintaining the grass composition between 45-70% through 2030
Maintaining the forb composition between 1-15% through 2030

Monitoring

The goals of monitoring are to determine if the fundamentals or conditions of Rangeland Health are being met within the AMP area under 43 CFR 4180. These conditions of Rangeland Health are:

(a) Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and land form and maintain or improve water-quality, water quantity, and timing and duration of flow.

(b) Ecological processes, including the hydrologic cycle, nutrient cycle, and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

(c) Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM management objectives such as meeting wildlife needs.

(d) Habitats are, or are making significant progress toward being restored or maintained for Federal threatened and endangered species, Federal Proposed, Category 1 and 2 Federal candidate and other special status species.

To monitor rangeland health conditions, key areas as defined in the *Monitoring* "Planning for Monitoring", "TR 4400-1", (1984) would be used. The key area would be used as an indicator area to reflect what is happening on the terrain they represent, subsequent of on-the-ground management. Each key area would be established based on a Range Site/Ecological Site (developed by the Natural Resource Conservation Service, (NRCS) with a specific Potential Natural Community (PNC) and specific physical site characteristics. Knowing the PNC of the area, and using the ecological site descriptions as a guide, DPC objectives can be developed. The DPC then becomes the objectives by which management actions would be measured.

Dry Weight Ranking (DWR) studies would be used to measure attainment of the key area DPC objectives. In addition, Pace Frequency studies would be used at each key area to detect changes of individual species which determines a trend or change in vegetation composition. Pace Frequency and DWR would be completed on each key area every 3-6 years. DWR and Pace Frequency study methodologies are described in *Sampling Vegetation Attributes*, "Interagency Technical Reference 1734-4" (1996).

Livestock use on forage plants would be determined by conducting grazing utilization studies using the Grazed-Class Method as described in the *Utilization Studies and Residual Measurements* "Interagency Technical Reference 1734-3" (1996). Utilization studies would be completed annually by BLM, when livestock are removed from the pasture. Study data would be compiled each year. Other information to be collected and compiled is precipitation, actual use, etc. All monitoring data would be used to evaluate current management and assist BLM in making management decisions that helps achieve vegetation objectives on the allotment.

Based on analyses of the allotment's monitoring data and supporting documentation contained in the June Tank S&G Assessment Report (2001), resource conditions on the allotment meet all applicable standards for rangeland health.

III. AFFECTED ENVIRONMENT

The following critical elements of the human environment are not affected by the proposed

action or alternatives or are not present on this allotment:

- Air Quality
- ACECs
- Native American Religious Concerns
- Wastes (hazardous or solid)
- Water (quality and quantity of surface/underground supplies)
- Prime or unique farmlands
- Floodplains
- Environmental Justice
- Wetlands/Riparian Areas
- Wild & Scenic Rivers
- Wilderness
- Wild Horses and Burros
- Minerals

The affected environment is tiered to the Arizona Strip District RMP (January 31, 1992), Affected Environment pages III-1 to III-58, and pages 41 to 92 of the Vermillion Grazing EIS (April, 1979) which was adopted into the RMP and are essentially the same for this action. Chapter 2 of the Vermillion Grazing EIS describes the environmental components likely to be impacted by the proposed action. Environmental components discussed in the EIS that might affect or be affected by the proposal are: Climate, Vegetation, Water Sources, Threatened and Endangered Species, Wildlife, BLM Sensitive and State Species of Concern, Soils, Lithology, Cultural/Historical, Visual Resources, Livestock Grazing, Recreation Resources, Socioeconomics and Noxious Weeds.

This EA also incorporates by reference the "Implementation of Standards for Rangeland Health and Guidelines for Grazing Administration, June Tank Allotment S&G Assessment" (2001)[2]. The June Tank Allotment S&G Assessment describes the resources and issues applicable to the allotment area. See the June Tank Allotment S&G Assessment Appendix for other resource data and associated information.

The Arizona Strip Field Office is located in the northwest portion of Arizona. The topography of the proposed restoration area is open, semiarid range with a gently (1-10%) sloping, rolling, or flat terrain. Elevation ranges from 4800 to 5800 feet, temperatures average 20 degrees in the winter and 80 degrees in the summer, and precipitation averages 10-15 inches annually. A general description of the affected environment may be found in the FEIS. Site specific components which could be affected by the proposal are as follows:

The following critical elements of the human environment are either present or would be affected

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[2] June Tank Allotment S&G Assessment, available at the Bureau of Land Management, Arizona Strip Field Office, 345 E. Riverside Drive, St. George, Utah 84790.

by the proposed action or alternatives in this EA: vegetation, soils, visual resources, animals, recreation, cultural resources, and noxious weeds.

Climate

The June Tank allotment falls within the Heaton Knolls precipitation (ppt.) zone. Precipitation on the allotment is most represented by the Heaton Knolls precipitation rain gauge located in T37N, R6W, Sec. 33, on the West side of the allotment. Average precipitation is 9.98" annually. Approximately 15% (1.50") comes in the fall, 21% (2.09") in the winter, 21% (2.10") in the spring and 43% (4.29") in the summer.

Vegetation

There are three principal vegetative types[3] within the allotment: Grassland, sagebrush, and pinyon-juniper.

- The grassland type consists of plant species such as blue grama, galleta grass, squirrel tail and Indian ricegrass.
- The sagebrush type includes big sagebrush, squirrel tail, blue grama, sand dropseed, mormon tea, yellow rabbitbrush and fourwing saltbush.
- The pinyon-juniper type includes pinyon, juniper, sagebrush, fourwing saltbush, desert holly, blue grama, and squirrel tail.

These vegetative types make up the different ecological sites[4] that are part of the Major Land Resource Units, as defined by the NRCS. The dominant ecological sites on the June Tank allotment are: Loamy Upland and Shallow Loamy.

The proposed restoration area is covered by a sagebrush community type. Species frequency at the sites appear in the following table.

SPECIES	FREQUENCY
Sagebrush	42 - 67%
Snakeweed	1 - 34%

[3] Vermillion Grazing Environmental Impact Statement

[4] An ecological site is a distinctive kind of land that differs from other kinds in its ability to produce a characteristic plant community. Each ecological site is a product of all environmental factors responsible for its development. Each site is capable of producing and supporting a plant community typified by an association of species that differs from other ecological sites in species kind, proportion and total production.

Prickly Pear	0 - 4%
Juniper	0 - 5%
Blue Grama	9 - 75%
Squirreltail	3 - 27%
Galleta	0 - 74%
Sand Dropseed	0 - 14%
Indian Ricegrass	0 - 4%
Three-awn	0 - 2%
Globemallow	0 - 3%

There are no threatened or endangered plant species within the proposed restoration area.

Water Sources

The June Tank allotment contains:

8 livestock catchments
8 wildlife catchments
35 unfenced reservoirs

All of the above artificial man made water sources are available to wildlife, although some of them may not actually hold water yearlong. All of the water rights are held by the permittee. Eight catchments are cooperatively maintained by the permittee. It is a requirement of the agreements to make the water accessible to wildlife, for the time that water is available. There are currently no known natural water sources, and no known competition for water between wildlife and livestock at the artificial sources.

There are six livestock watering ponds within the proposed restoration area. There are no streams in the vicinity. Washes flow a short distance and a short period of time (usually less than one day) following intense summer thunder storm events.

Threatened and Endangered (T&E) Species

There are no areas considered to be habitat or potential habitat for any listed threatened or endangered species on this allotment. However, bald eagle (*Haliaeetus leucocephalus*), California condor (*Gymnogyps californianus*), and peregrine falcon (*Falco peregrius alatum*) may occasionally fly over the area. There are no riparian areas that would provide foraging habitat for peregrine falcon, bald eagle, or southwestern willow flycatcher (*Empidonax trailii*

extimus). An experimental non-essential population (as defined under section 10J of the Endangered Species Act) of California condors was established on the Vermillion Cliffs in 1996. These birds may eventually forage on carrion within the allotment but have not yet been observed doing so. No other federally listed T&E (plant or animal) species are known to occur in the area covered by this EA.

No listed threatened or endangered species are known to reproduce or live yearlong within the treatment area.

Wildlife

Allotment observations over the years indicate that this area only receives light use by pronghorn antelope and mule deer during any season.

Non-game wildlife found on the allotment is typical of the area, including a variety of small mammals, grassland birds, raptors, and reptiles. All water sources within this arid area are important for wildlife.

The June Tank Allotment is fairly large and supports numerous other wildlife species typical of the sagebrush and pinon/juniper vegetation types, such as bobcats, golden eagles, red-tailed hawks, antelope ground squirrels, plus numerous small reptiles, birds, small mammals, and other raptors. In addition, this allotment provides habitat for numerous species of non-game small mammals, birds, reptiles, raptors and predators, including coyotes. Huntable populations that occur on this allotment are coyotes, desert big horn sheep, pronghorn and mule deer. Some mountain lions and chuckar may also occur.

The subject area falls within the Mt. Trumbull Wildlife Habitat Management Area. Mammals typical of the area include mule deer, pronghorn, coyote, bobcat, mountain lion, fox, jackrabbit, cottontail rabbit, ground squirrel, and various rodents. Common birds include warblers, wrens, sparrows, jays, woodpeckers, crows and ravens, burrowing owls, red-tailed hawks, and golden eagles. Reptiles include western rattlesnake, great basin gopher snake, and western whiptail, fence, short-horned, and sagebrush lizards.

There is a well ordered pattern of food and community relationships in the climax sagebrush-grass community. Mule deer rely upon the understory browse and forbs in more open areas and use the nearby pinyon/juniper stands for cover. Coyotes, mountain lions, and other predators prey on mule deer and small mammals. Seeds from the forbs and grasses provide food for rodents which in turn are preyed upon by predators both mammal and bird.

BLM Sensitive and State Species of Concern

Ferruginous hawks (*Buteo regalis*) are known to forage over grassland habitat similar to that found on the allotment, though specific sightings have not been recorded for the area. Snowy egrets (*Egretta thula brewsteri*) have occasionally been observed using stock tanks in the area,

but have not been recorded on the June Tank Allotment. A variety of sensitive bat species have been known to occur in the surrounding area, including Townsend's big-eared (*Corynorhinus townsendii*), spotted bats (*Euderma maculatum*), small-footed myotis (*Myotis ciliolabrum*), fringed myotis (*Myotis thysanodes*), and big free-tailed bats (*Nyctinomops macrotis*).

No sensitive reptiles or amphibians are known or suspected to occur on this allotment.

Soils

The only soils monitoring data for this area is the Phase 1 Watershed Conservation and Development Inventory of 1971-1973 (See Field Office Files 7300). It was based upon a general soils map and thus ended up as broad interpretations and averages over large areas. Other more specific and detailed soils information is as follows:

SSA 625
Soil condition evaluations were accomplished by field inspections. Some small areas of MU 29, Manikan silty clay loam, stream terraces are dominated by sagebrush or weeds. Sheet erosion is minimal with only a few small gullies and rills evident, most of them healed.

Soils:(Soil Map Units , SSA 625,(SCS,1991)

3 Barx loam, 1 to 4 percent slopes, (fan terraces), sandstone; Loamy Upland, 10" to 14" ppt
11 Curhollow-Prieta complex, 4 to 20 percent slopes, (fan terraces, hills), limestone, basalt; Basalt Upland, 10" to 14" ppt
14 Grieta loam, 1 to 5 percent slopes, (fan terraces), sandstone; Loamy Upland, 7" to 11" ppt
15 Gypsiorthids-Gypsiorthids, shallow complex, 1 to 50 percent slopes, (fan terraces, hills), gypsiferous shales; Gypsiorthids=Gypsum Upland, 7" to 11" ppt; Gypsiorthids
17 Havasupai-Mellenthin complex, 2 to 12 percent slopes, (fan terraces, hills), limestone; Shallow Loamy, 10" to 14" ppt
20 Jocity silty clay loam, 1 to 4 percent slopes, (stream terraces), mixed alluvium; Silty Upland, 7" to 11" ppt
22 Kinan gravelly loam, 1 to 15 percent slopes, (fan terrace), limestone; Loamy Upland, 7" to 11" ppt
27 Lozinta extremely gravelly loam, 1 to 15 percent slopes, (fan terraces), scoriaceous basalt and pyroclastics; Cinder Upland (PJ-Woodland), 14" to 18" ppt
28 Lozinta extremely gravelly loam, 15 to 45 percent slopes, (cinder cones), scoriaceous basalt and pyroclastics; Cinder Hills (PJ-Woodland), 14" to 18" ppt
29 Manikan silty clay loam, 1 to 4 percent slopes, (stream terraces), sandstone, shale; Clayey Upland, 10" to 14" ppt
31 Mellenthin-Barx complex, 1 to 15 percent slopes, (hills, fan terraces), limestone,

sandstone; Mellenthin=Shallow Loamy, 10" to 14" ppt; Barx=Loamy Upland, 10" to 14" ppt

32 Mellenthin-Progresso complex, 1 to 7 percent slopes, (hills, fan terraces), limestone; Shallow Loamy, 10" to 14" ppt; Progresso= Sandy Loam Upland (calcareous), 10" to 14" ppt

33 Mellenthin very gravelly loam, 1 to 25 percent slopes, (hills), limestone; Shallow Loamy, 10" to 14" ppt

34 Mellenthin very gravelly loam, 30 to 50 percent slopes, (hills), limestone; Limestone Breaks, 10" to 14" ppt

35 Mellenthin very gravelly loam, cool, 1 to 25 percent slopes, (hills), limestone; Shallow Loamy, 10" to 14" ppt

39 Milok gravelly loam, 1 to 15 percent slopes, (fan terraces), limestone; Loamy Upland, 10" to 14" ppt

40 Moab loam, 1 to 5 percent slopes, (fan terraces), limestone; Loamy Upland, 10" to 14" ppt

49 Poley-Moab complex, 1 to 10 percent slopes, (fan terraces), basalt, pyroclastics; Poley=Clay Loam Upland, 10" to 14" ppt; Moab=Loamy Upland, 10" to 14" ppt

54 Saido-Brinkerhoff complex, 1 to 5 percent slopes, (fan terraces), gyp-shale, mudstone, sandstone; Saido=Gypsum Upland, 7" to 11" ppt; Brinkerhoff+Loamy Upland, 7" to 11" ppt

58 Showlow-Thimble complex, 1 to 15 percent slopes, (hills, fan terraces), basalt, pyroclastics; Showlow=Clay Loam Upland (PJ-Woodland), 14" to 18" ppt; Thimble=Basalt Upland (Woodland), 14" to 18" ppt

63 Torriorthents-RO complex, 30 to 70 percent slopes, (hills, scarps), Moenkopi colluvium; Breaks, 10" to 14" ppt

64 Torriorthents-RO complex, dry, 30 to 70 percent slopes, (hills, scarps), Moenkopi colluvium; Breaks, 7" to 11" ppt

67 Wukoki-Lomaki complex, 15 to 50 percent slopes, (cinder cones), scoriaceous basalt, pyroclastics; Cinder Hills, 10" to 14" ppt

71 Yumtheska-Goesling complex, 1 to 15 percent slopes, (hills, stream terraces), limestone; Yumtheska=Shallow Loamy (PJ-Woodland), 14" to 18" ppt; Goesling=Loamy Upland, 14" to 18" ppt

72 Yumtheska very gravelly loam, 4 to 20 percent slopes, (hills), limestone; Shallow Loamy (PJ-Woodland), 14" to 18" ppt

Lithology:

Outcrops of basalt, cinders and related pyroclastics occur along the west side of the allotment as hills. Most of the allotment is Kaibab limestone with some scattered Moenkopi red bed hills, mainly in the east portion. Some steep walled canyons in the north part are Kiabab over sandstones.

Cultural/Historical

Cultural resources cover the span of human occupation in the new world from around 10,000 years ago, up to and including the ranch operators of today. Our specific knowledge of the cultural makeup is limited due to the lack of scientific investigation of the area. A class I review was conducted and certain sites have been recorded on the allotment, but no known impacts to significant resources resulting from grazing have been found or documented.

Visual Resources

Visual Resource Management (VRM): Three VRM Classes are found on this allotment: Class 2, Class 3 and Class 4. The area next to Mohave County road 109 and BLM road 1058 has been rated as class 2 (see VR-02).

The proposed restoration site appears as a mosaic of gray green sagebrush, green or gold grasses, and brown and gray soil exposures with some scattered dark green pinyon/juniper. The restoration areas lie within the VRM Classes II, III & IV, which means that visual impacts and contrasts are not obvious, and unnecessary degradation would be minimized.

Livestock Grazing

The June Tank Allotment (#5221) is comprised of 90,430 acres of federal and 4,424 acres of state land. The total number of active AUMs on the allotment is 8206. The season of use is seasonal(10/16 through 6/15).

Recreation Resources

The June Tank allotment is considered to have recreation values for its geology, scenic view sheds, remoteness and solitude. General recreation activities include: recreational OHV use, driving for pleasure, horseback riding, hiking, camping, hunting, and photography.

> General Management: Manage as an extensive recreation area while maintaining naturalness/remoteness qualities. Regulate visitor use only when monitoring indicates a trend towards unacceptable change to desired recreational settings brought about by such use. This allotment provides primary access to points and overlooks located on the north rim of the Grand Canyon National Park.
>
> Off Highway Vehicles (OHV): Two designations for OHV use are found on this allotment: “Limited to Existing Roads and Trails” and “Limited to Designated Roads and Trails”.
>
> Recreational Opportunity Spectrum (ROS): Three ROS classes are found in this allotment: “Roaded Natural,” “Semi-Primitive Motorized,” and “Semi-Primitive Non-Motorized”.
>
> Special Management Areas: None

Trails: No developed recreational trails are found in this allotment, but the Dominguez & Escalante party is thought to have traveled through the north western end of this allotment. Their route is shown on Arizona Strip Visitor Maps and other maps as a historic trail, but the route is not signed or marked on the ground in this allotment.

Socio/Economic

The economic base of the Arizona Strip is mainly ranching with a few gypsum/selenite mines and uranium operations. Nearby communities are supported by tourism (including outdoor recreation), construction and light industry. The social aspect involves remote, unpopulated settings with moderate to high opportunities for solitude.

Noxious Weeds

A 1/4 acre patch of scotch thistle has been identified near Kanab Point in the Preserve Pasture. There have been efforts in the past to treat this infestation. Although these efforts have not yet eradicated the noxious weed in the area, they have had an impact in reducing the size and plant numbers of the infestation. Presently, the infestation has not expanded beyond its located size. On the S & G trip to this allotment, everyone including the RRT pitched in as a work project to shovel, hoe and pull a small patch of scotch thistle and remove it from the site.

IV. ENVIRONMENTAL IMPACTS

Only impacts that may result from implementing the proposed action or alternatives are described in this EA. If an ecological component is not discussed, it is because BLM resource specialists have considered effects to the component and found the proposed action or alternatives would have minimal or no effects.

General effects from projects similar to the proposed action or alternatives are also described in the documents to which this EA is tiered.

This EA incorporates by reference the June Tank Allotment S&G Assessment and Appendix (2001) that provides a complete discussion, analysis and summaries of the range resources and associated data and issues.

Climate

The Proposed Action would have no effect on the climate. However, the Proposed Action would allow affected resources to respond to the climate with improvement to these resources, as mentioned below in the drought and vegetation sections.

Drought

In response to drought conditions, BLM can modify the terms and conditions of a grazing permit (i.e. number of cattle, turn out dates, removal dates, etc.) temporarily or on a more long-term basis. Most modifications are accomplished on a cooperative basis with the livestock permittee. However, if a permittee disagrees with BLM's assessment of the resource conditions or the necessary modifications, BLM may nevertheless issue a Full Force and Effect Grazing Decision to protect resources.

Vegetation

Grazing impacts on vegetation are mitigated by timing of use, adjusting of stocking rates, and conformance with Standards and Guidelines for Grazing Management. Under current management the grazing system is designed to allow for different seasons of use and rest, allowing cool and warm season grasses and browse to elongate the plants apical bud, build vigor and achieve seed ripe.

Trend data of the allotment's vegetation components indicate that six key areas are in upward trend and three are in static trend as a result of current management and precipitation. These vegetation components constitute the ecological sites upon which DPC objectives are based. Key areas are established on ecological sites and studied to determine the ecological status[5] of that site and the trend of plant species on the site.

Table 1 lists pastures and key areas, the ecological site of the key areas, current ecological status and associated similarity indexes. Also, listed is the current trend of the vegetation based on pace-frequency studies.

Table 1

Allotment (Pasture)	Key Area	Ecological Site	Ecological Status	Similarity Index	Frequency Trend

[5]Ecological status is the present state of vegetation of an ecological site in relation to the potential plant community for that site. It expresses the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the potential natural plant community for the site. Ecological status is a coefficient of community similarity, which gives an ecological rating of the plant community. Ecological status is also defined in seral stages, which are the developmental stages of ecological succession. The four ecological status classes correspond to percent similarity to potential natural community and correlate with seral stage ratings.

Early Seral Stage (0-25%)
Mid Seral Stage (26-50%
Late Seral Stage (51-75%)
Potential Natural Community (76-100%)

June Tank (Preserve)	#1	Loamy Upland 10-14" pz	Late Seral	51%	Static
June Tank (Jackson)	#2	Shallow Loamy 10-14" pz	Late Seral	58%	Upward
June Tank (June Tank)	#3	Loamy Upland 10-14" pz	Late Seral	52%	Upward
June Tank (Mereles)	#4	Shallow Loamy 10-14" pz	Late Seral	62%	Upward
June Tank (Nates)	#5	Shallow Loamy 10-14" pz	Late Seral	70%	Upward
June Tank (Twin Tank)	#6	Loamy Upland 10-14" pz	mid Seral	48%	Static
June Tank (Indian)	#7	Loamy Upland 10-14" pz	Late Seral	57%	Static
June Tank (Findlay Tk)	#8	Shallow Loamy 10-14" pz	Late Seral	59%	Upward
June Tank (Robinson)	#9	Shallow Loamy 10-14" pz	Late Seral	57%	Upward

Utilization[6] levels during the analysis period have been below the 50 percent allowable level. During the evaluation period, average utilization across all pastures for Cool Season grasses was 29 percent, ranging between 9 percent and 48 percent. For the Warm Season grasses the average was 26 percent, ranging from 4 percent to 45 percent. The Browse averaged 34 percent and all browse species ranged from 4 percent to 48 percent

[6]Utilization is the portion or degree by weight of current years forage production that is consumed or destroyed by animals (including insects). Utilization is synonymous with use.

Current grazing is operated under a deferred-rotation system. These pastures are generally used in the fall, winter and spring.

All woody plants (except cactus) within the spray areas would be affected to some extent by the herbicide (direct impact). Junipers under six feet tall most likely would be killed and some larger trees would be affected. Grasses as a rule, are not. The anticipated impact to the vegetation in the restoration area in response to the herbicide is expected to range from minimal to substantial, depending on species of vegetation, type of vegetation, and the amount of moisture (i.e., rainfall).

Sagebrush vegetation is expected to have a 75-85 percent kill depending on meteorological (precipitation) events following application.

Perennial grasses and forbs are expected to have varying degrees of damage (direct impact); however, it is felt that this damage would not be long lasting as it would with the sagebrush species, and they should survive and be unaffected after the first growing season following application.

Restoration of this area would enhance biodiversity in the area, but over a period of 25 to 50 years sagebrush would be expected to gradually reoccupy these sites and displace a percentage of the grass and forbs.

Threatened and Endangered Species(T&E)

The Proposed Action Alternative would not affect any listed threatened or endangered species nor would the proposed action impact an occasional fly over by the bald eagle, California condor, peregrine falcon, or Mexican spotted owls.

The proposed restoration treatment is not likely to adversely affect the California condor. Because this is an experimental non-essential population, the species is treated as if it were proposed for listing under the Endangered Species Act (ESA), rather than as an endangered species. Section 7 consultation is not required for this population unless BLM were to make a determination that the proposed action would be likely to jeopardize the continued existence of the species. BLM has submitted actions which were very similar to the proposed restoration treatment for conference (consultation) to the Fish and Wildlife Service. The Service concurred with BLM's determination that the proposed tebuthiuron treatment was not likely to adversely affect California condor.

No spotted owls were detected during any of these surveys. Staff biologists do not believe that spotted owls nest or breed anywhere on this allotment. Nesting spotted owls north of the Colorado River on the Colorado Plateau have only been found in steep walled canyons rather than forested habitats. Within those areas designated as critical habitat for Mexican spotted owl on the June Tank Allotment, the dominant vegetation consists of pinyon/juniper islands

interspersed with dense stands of big sagebrush.

BLM Sensitive Species.

The Proposed Action would have no affect on BLM sensitive and state species of concern. These species include the avian species, Ferruginous hawk, and snowy egret and sensitive bat species such as Townsend's big eared, spotted bats, small-footed myotis, fringed myotis and big free-tailed bats.

Wildlife

The Proposed Action would benefit wildlife, because the restoration treatment will likely increase production and diversity of forage for big game (pronghorn antelope or mule deer) or the other non-game wildlife found on the allotment. Observation and studies over time have indicated that this area receives only light use by pronghorn antelope and mule deer, primarily as transitional habitat between summer and winter range.

There would be a displacement on part of the animal community until revegetation starts. Studies by Fagerstone, Tietjen, and LaVoie (1977) conducted in Montana show that the only effect of herbicidal treatment on rodent populations (prairie dogs) was to significantly change their normal diet intake of forbs to one of grasses. The availability of more grasses was the only element responsible for the diet change. However, forb composition within the boundaries of the proposed restoration sites is presently low and should not greatly change the rodent diet in this area.

The proposed reduction of living sagebrush plants would change the structure of the vegetation in the treated area. It would reduce the numbers of animals dependent upon sagebrush in the treated area such as sage sparrows. Schroeder and Sturges (1975) report that nesting birds (Brewer's sparrows) within treated areas would not be negatively impacted directly during the year of application, but the prescription may alter nesting once sagebrush cover is reduced. Two years following restoration prescription, birds no longer nested within the treated sites. Sparrow nest density in the spike areas could be as high as 15 nests per square mile. The sagebrush which would remain in the valley should maintain the nesting habitat. As the grass begins to spread and fill in the interspaces, biodiversity would improve and there would be a long term benefit for wildlife.

Although Tebuthiuron can be a potent herbicide, it has a low order of toxicity for animals, thus providing a large margin of safety for its intended use. Extensive testing has proved the herbicide safe at the recommended use levels.

LD_{50} (The dosage of toxicant, expressed in milligrams of toxicant per kilogram of animal body weight, required to kill 50 percent of the animals in a test population when given orally) of Spike in mice and rats was approximately 600 mg/kg. Several kinds of fish tolerated high concentrations of Spike and the 96-hour LC_{50} ranged from 112 to 160 parts per million(ppm).

Reduction in body weight was the primary sign of toxicity in subacute studies in rats, dogs, and chickens. No problems were noted in eye irritation, dermal toxicity, or contact sensitization studies.

In addition to these studies, Spike was not teratogenic in the rabbit and the reproductive capacity of rats was not affected when fed through three generations. Spike fed to mice and rats for two years at concentrations up to 1600 ppm resulted in no more than minimal toxicity symptoms characterized by slight reduction in weight, slight vacuolization of the pancreatic acinar cells, and a slight increase in kidney weights in males. The feeding of Spike to cattle for a period of 162 days at levels of 0 to 100 ppm results in no clinical changes which were attributed to Spike. Orally dosed Spike was readily absorbed in mice, rats, rabbits, dogs, and ducks. The compound was extensively metabolized and the metabolites were rapidly excreted in the urine of these species. No accumulation of Spike or its metabolites was observed in the animals.

In 8-day dietary studies with mallards and bobwhites, no mortalities occurred in the high dose treatments of 0.25 percent Tebuthiuron. Behavior, posture, and appearance of birds were normal. When given a slight dose, a related decrease in food consumption was observed, but Tebuthiuron was nontoxic at the termination of experiments for LD_{50} (see page E8-13, Appendix of FEIS).

LC_{50} in rainbow trout ranged from 193 ppm at one day post-treatment to 126 ppm at five days post-treatment. Bluegills reacted to Tebuthiuron in a manner similar to rainbow trout. No mortalities were observed at 120 ppm of Tebuthiuron and complete behavioral recovery was apparent two days after fish were placed in clean water. The LD_{50} for Tebuthiuron in daphnia was 297pm at 48 hours.

No fish exist in any of the stockponds within or around the restoration area.

Migratory Birds

Executive Order 13186 requires BLM and other federal agencies to work with the U.S. Fish and Wildlife Service to improve protection for migratory birds. Implementation of the proposed action is not likely to adversely affect any species of migratory bird known or suspected to occur on the allotment. No take of any such species is anticipated**.**

Soil

Attributes making up the soil resource should remain stable or improve thru implementation of the Proposed Action Alternative and enforcement of the Arizona Standards and Guides process for permitted livestock grazing within the June Tank Grazing Allotment. The current grazing rotation allows for seasonal plant rest and vigor. Utilization levels are within that allowable and current trends are up.

Soils may be slightly more susceptible to erosion (indirect impact) until desired vegetation starts to increase (approximately 6 to 24 months after treatment). Erosion would decrease by as much

as 65 percent in the long-term due to the increase of good vegetation and litter cover and proper grazing use. Metabolism, degradation, and leaching of Tebuthiuron in soil were studied in the laboratory and field. The predominant mode of degradation in laboratory studies was N-demethylation to M-(5-(1,1-dimethylethyl)-1,3,4-thiadiazol-2-yl)-N-methylurea. The half-life of Tebuthiuron was 10 to 13 months in field studies conducted in moderate-to-high rainfall areas. The FEIS shows a range of 13-450 days. In low rainfall areas, the rate of dissipation was much slower. In Northwestern Arizona, the half-life would be approximately 30 months $\pm$ 10 months based on samples sent to MVT Laboratories.

In laboratory studies, 14C Tebuthiuron leached slowly through a muck soil, but leached more readily through a sand soil column. In field studies, 14C Tebuthiuron leached slowly in medium textured soils with 2-3 percent organic matter. Tebuthiuron was found in runoff water in field studies on controlled watersheds when storms occurred immediately after application. Tebuthiuron in runoff water declined rapidly with time to very low or non-detectible levels 1 to 3 months after application.

The watershed cover is expected to temporarily decrease in quality due to the decrease in canopy cover and the soils may be slightly more susceptible to erosion (indirect impact) until desired vegetation starts to increase in vigor and abundance (approximately 6 to 24 months after treatment). Once the desired vegetation is established, ground cover would increase, improving watershed conditions.

Cultural Resources

There would be no substantial impact to cultural or historical sites as a result of renewing this grazing permit and sagebrush-grassland ecosystem restoration. Cultural resources project file AZ BLM 010-2001-43 contains documentation of compliance with Section 106 of the National Historic Preservation Act. Great efforts are made to avoid any sites during allotment project implementation. Further, archaeological clearances are completed prior to any and all project approvals.

No soil disturbance is proposed for the project. Therefore, no known impacts would occur. The effects of chemical treatment, such as tebuthiuron on archaeological features, sites, and artifacts is unknown at this time. It is possible that the absorption rates on some kinds of artifacts may be affected so that specific dating methods like obsidian hydration dating might be altered.

Until more information becomes available, we would follow the stipulations of a Programmatic Memorandum of Agreement between the BLM, the Arizona State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP). Therefore, we would not consult with those agencies on projects of this nature until more specific information on the effects of this chemical becomes available.

Livestock Grazing

Under the Proposed Action livestock grazing would continue and the permittee would be allowed to continue in the livestock business. More AUMs may become available from the sagebrush-grassland treatment results.

Recreation Resources

Recreation in the area is primarily composed of driving for pleasure, recreational OHV use, horseback riding, hiking, camping, hunting, and photography. No impact to recreation is expected.

Site specific impacts are consistent with those discussed beginning on page 2-50 of the FEIS. Recreation settings in the area would temporarily shift more toward the urban end of the recreation opportunity spectrum, due to the obvious "hand of man" created by herbicide treatment. In the long-term, recreation activities such as hunting and viewing wildlife could be enhanced.

Noxious Weeds

There are five known noxious weeds sites inside the allotment boundary. BLM would monitor for any re-establishment of these weeds (Russian knapweed and Scotch thistle) and would control or remove them if they are found.

A small ¼ acre patch of scotch thistle has been identified in the Preserve Pasture. There have been efforts in the past to treat this infestation. Although these efforts have not yet eradicated all the noxious weeds in the area, they have had an impact in reducing the size and plant numbers of the infestation. Presently, the infestation has not expanded beyond its located size. On the S & G trip to this allotment, everyone including the RRT pitched in as a work project to shovel, hoe and pull a small patch of scotch thistle and remove it from the site

Cumulative Impacts

Cumulative Impacts are tiered to the Arizona Strip RMP (1992), Environmental Consequences pages IV-36 to IV-38, and to chapter 4 of the Vermillion Grazing EIS (1979) which was adopted into the RMP. Unavoidable Adverse Impacts, Relationship between Local Short-term Uses of Man's Environment, Maintenance and Enhancement of Long-term Productivity, and the Irreversible and Irretrievable Commitments of Resources were discussed.

Cumulative impacts occur when additional management facilities are added to those already present. Grazing plans are intended to meet specific objectives to the plan area and involve rangeland improvements that are designed to maintain or improve wildlife habitat, watershed, and overall resource conditions, thus improving ecosystem health.

Past, present, and reasonably foreseeable actions within the analysis area would continue to influence range resources, watershed conditions and trends. The impact of land treatments

targeting woody species, voluntary livestock reductions during dry periods and implementation of a grazing system have improved range conditions. The net result has been greater species diversity, improved plant vigor, and increased ground cover from grasses and forbs. No cumulative impacts are predicted from the proposed action.

The east half of the Arizona Strip field office has approximately 385,401 acres of ecological sites dominated by Big Sagebrush. The vegetative type conversion of 9,000 acres of predominately sagebrush with an understory of various warm-season grasses to a community predominated by native warm-season grasses and forbs would not have a substantial cumulative impact to the vegetative type or the area considered. For an additional discussion on cumulative impacts within the District, see the Arizona Strip District Resource Management Plan and Environmental Impact Statement Page III-34 to which this document is tiered.

Residual Impacts

Residual Impacts are tiered to the Arizona Strip RMP (1992), Irreversible and Irretrievable Commitments of Resources page 172 of the Vermillion Grazing EIS (1979) which was adopted into the RMP. Though the proposed action doesn't propose any new fences, it does allow for the existence of present fence lines, which do create some restrictions of free passage, but do not prevent passage of mule deer. Existing fences are pronghorn compliant. Other wildlife using the area are not restricted by existing fences.

There are no residual impacts as a result of the proposed action to the vegetative resource. Future maintenance of existing vegetation treatments would take place regardless of the proposed action and would not affect additional acres beyond that done previously. Residual impacts from maintenance activities would be improved watershed conditions, wildlife habitat, and rangeland resources over time.

Greater biodiversity would be achieved resulting in an attainable desired plant community. The present forage productivity would be expected to be unchanged over the short-term. Long-term forage productivity, vigor, and density should improve three to seven fold while the unpalatable shrubs would be decreased 80 percent or more. Productivity is expected to peak the second or third year following treatment and continue up to 10 years before beginning to decline (Scifres & Mutz 1982).

No other residual impacts from the proposed action would remain after application or implementation of mitigation measures.

Monitoring

The monitoring described in the proposed action (page 10) is sufficient to identify changes in vegetation as a result of livestock grazing activities. In addition to those methods described, there are efforts in place to inventory for noxious weed establishment, as well as monitor treated areas for treatment effectiveness. BLM Arizona Strip Field Office noxious weed specialist has the lead

on monitoring and treating noxious weeds for this area.

Mitigation

When noxious weeds are located, various methods are used for their control depending on the size of the infestation and growth stage of the plants. The methods include but are not limited to:

Physical or mechanical
Biological
Chemical

If vegetative monitoring indicates current livestock grazing practices are causing non-attainment of resource objectives, BLM can modify the terms and conditions of a grazing permit (ie. number of cattle, turn out dates, removal dates, etc.) temporarily or on a more long-term basis. Most modifications are accomplished on a cooperative basis with the livestock permittee. However, if a permittee disagrees with BLM's assessment of the resource conditions or the necessary modifications, BLM may nevertheless issue a Full Force and Effect Grazing Decision to protect resources.

Apply aerial application under favorable environmental conditions so that herbicides would have little chance of drifting or missing the target area.

Application operations would be suspended when any of the following conditions exist on the treatment area:

1. Wind velocity exceeds 15 miles per hour for the application of granular herbicides, or as specified on the label (whichever is less).

2. The herbicide should not be applied when the soil surface is saturated, frozen, or covered with snow.

3. Precipitation is occurring or is imminent.

4. Fog significantly reduces visibility.

5. Air turbulence (for example, thermal updrafts) is sufficient to affect the normal chemical distribution pattern.

During air operations, a radio network would be maintained to link all parts of the project.

Individuals involved in the herbicide handling or application would be instructed on the safety plan and spill procedures.

Other general mitigation.

1. A preventative maintenance program including grazing utilization levels and grazing rotation system would be incorporated as part of each project treatment proposal that would help guard against re-encroachment of undesired plant or shrub species. These are incorporated in the land use plan and are currently being implemented.

2. Precautions would be taken to assure that equipment used for storage, transport, and mixing or application would not leak into water or soil creating a contamination hazard.

3. Ferrying routes between the staging area and treatment area would be planned to avoid flights over aquatic systems and human habitation (No aquatic systems other than stock ponds or human habitations exist in the area).

4. Monitoring of mitigation effectiveness would be conducted by the District Hazardous Materials Coordinator.

5. Standards and guidelines in BLM Handbook Section 9011 (Pesticide Storage, Transportation, Spills, and Disposal) Section II would be met. This defines standards for storage facilities, posting and handling, accountability, and transportation. It covers spill prevention, planning, cleanup, and container disposal requirements.

6. Install several temporary signs to explain the project and warn of low flying aircraft.

7. The treatment is designed so that "areas" of sagebrush and juniper would be left untreated, as well as making irregular boundaries. These areas are ridges, hillsides, and other islands and fingers which extend into the treatment area.

8. Areas with greater than 25 percent rock outcrop would be avoided. Treatment would be concentrated on areas where the soil is closer to 20 inches deep avoiding those areas where the soil is 10 inches deep or less.

9. Areas of cliffrose would be flagged and avoided completely within the proposed treatment areas. Also treatment boundaries would be flagged for the pilot.

10. Soils with high clay content (soils with > than 30 percent clay) should be avoided due to the erratic results. This is especially true if soils are derived from basalt, parent material. Soils are mainly loams with lower clay content than 30 percent and are mostly of limestone parent material.

11. A 100 foot setback from surface waters would be flagged and avoided.

V. CONSULTATION AND COORDINATION

This EA was prepared by the Bureau of Land Management (BLM), Arizona Strip Field Office, 345 E. Riverside Drive, St. George, UT 84790. Public involvement for the June Tank S&G evaluation began March 14, 2001. The assessment was conducted by an interdisciplinary assessment team (IAT) of resource specialists from the BLM. The IAT was assisted by the Rangeland Resources Team (RRT) appointed by the Arizona Resource Advisory Council. A draft evaluation was sent out for public review and comment to Individuals, Groups and Agencies. Comments from Individuals, Groups and Agencies were incorporated in to the Final June Tank S&G evaluation report.

Interdisciplinary Assessment Team (IAT):
Linda Price.....Project Coordinator
Kevin Schoppmann....Range/Grazing
John Herron.....Archaeologist
Robert Smith....Soils, Watershed
Larry Gearhart.....Wilderness/Recreation
Michael Herder.....Wildlife Biologist

Internal Reviewers:
Gloria Benson, Native American Coordinator
Tom Folks, Recreation
Laurie Ford, Lands/Realty/Minerals
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John Herron, Cultural
Lee Hughes, Plants/Ecology
Ron Wadsworth, Supervisory Law Enforcement
Linda Price, S&G Program Coordinator
Bob Sandberg, Range Team Lead/Arizona Strip Field Office Manager
Richard Spotts, Environmental Coordinator
Ray Klein, GCPNM Supervisory Law Enforcement
Larry Gearhart, Recreation/Visual/Wilderness

Reviewed by Planning and Environmental Coordinator(P&EC):

_____ _____

Richard Spotts **Date**
P&EC

FINDING OF NO SIGNIFICANT ENVIRONMENTAL IMPACT

Implementation of the Arizona Standards for Rangeland Health and Guidelines for Grazing Management for the June Tank Grazing Allotment Permit Renewal and Sagebrush-grassland Ecosystem Restoration

RE: AZ-EA-110-2005-0012

The Environmental Assessment AZ-110-2005-0012, hereby incorporated by reference, analyzed a livestock grazing permit renewal action conducted under the Arizona BLM Standards for Rangeland Health and Guidelines for Grazing Management (S&Gs) where an intensive allotment evaluation was conducted with public and other agency involvement throughout the process. Analysis of existing study data indicates that overall Ecological Condition and pace frequency trends are static and mostly upward on the allotment. The resource conditions on the allotment are meeting Standards for Rangeland Health. Issues were analyzed and it was determined that current management is not a factor in preventing attainment of Standards.

This EA also analyzed the Ecological restoration prescriptions for the sagebrush-grassland ecosystem restoration. These prescriptions use the herbicide tebuthiuron to reduce 9,000 acres of sagebrush *(Artemisia tridentata)* component and allow the grass and forb components of the community opportunity to compete for water and nutrients thus allowing for restoration of the sagebrush-grassland ecosystem.

The Environmental Assessment reaffirmed the present Allotment Management Plan (AMP), and determined that the present grazing management program will continue to allow improvement to the health of public land resources, such as soil, water, vegetation, wildlife habitat, and wildlife and other resource values.

Based on the analysis of Environmental Assessment AZ-110-2005-0012, I have determined that the renewal of the June Tank Livestock Grazing Permit with current terms and conditions and sagebrush-grassland ecosystem restoration treatment will not have a significant effect on the human environment. Therefore, an environmental impact statement will not be prepared.

Field Manager
Arizona Strip Field Office

Date